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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/655,576	09/06/2000	Lambert Haner	28870	9923

116 7590 11/04/2002

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EXAMINER

JONES, JUDSON

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 11/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/655,576

Applicant(s)

HANER, LAMBERT

Examiner

Judson H Jones

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 October 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-9 and 11-14 is/are allowed.
- 6) ☒ Claim(s) 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

In response to applicant's argument that the references fail to show certain features of applicant's invention in claim 10, it is noted that the features upon which applicant relies (i.e., the electronic switches generate a fixed AC frequency, the motor field inductance automatically limits the field current and no PWM is required) are not recited in the rejected claim. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. in view of Dade et al. (both of record). Kim et al. discloses a controller circuit for an AC motor with a plurality of switches that generate separate power signals having variable amplitude as described in column 1 lines 11-21. Kim et al. does not disclose those signals varying in a cyclic manner. However, according to Dale et al. column 2 lines 39-53, most torque variation is a repeatable function of motor position and pulse width should vary according to motor position. See Kim et al. column 4 lines 35-42. Although Kim et al. does not disclose the signals varying in a cyclic manner, the signals would inherently vary in that manner.

Allowable Subject Matter

Claims 1-9 and 11-14 are allowed.

The following is an examiner's statement of reasons for indicating allowable subject matter: The prior art of record does not disclose or teach an AC electric motor having an

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electrically continuous conductive loop, the loop having longitudinal portions and shunt portions and the motor also comprising a stator with at least two windings selectively energized and de-energized with separate AC currents so that the AC field vector induces an AC current in the conductive loop as recited in claim 1. The prior art of record does not disclose or teach an electric motor with field windings on the stator for producing an AC magnetic field with a vector at successive angular positions around the axis of rotation when the windings are successively energized with single phase AC power as recited in claim 9. On the last line of page 3 and the first line of page 4, Applicant states in reference to Sugita et al., "The present invention is completely different in its method to create torque from an AC power source." That statement is definitely true. The only question in regard to the patentability of the claims was whether or not the invention as claimed defined over a proper combination of elements and teachings from the prior art. One of Applicant's arguments in the response of 10/23/02 was that "All AC induction motors operate on the principle of a "rotating DC magnetic field" ..." According to Introductory Electromechanics by Schmitz and Novotny page 193, "Although the configuration of the rotor in an induction machine is that of an armature, and although it does have polyphase alternating currents induced in it ..." According to Electromechanics and Electric Machines by Nasar and Unnewehr, "The polyphase induction motor operates on the basis of the existence of a rotating magnetic field. This approach is based on the concept that an alternating magnetic field is equivalent to two rotating magnetic fields rotating in opposite directions." Thus it would appear that the magnetic field of an induction machine could be considered as being either AC or rotating DC, depending on which simplification was more useful. Another argument advanced was that in the instant invention, "The stator has coils that are mechanically displaced from each

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other, but each stator coil is energized by the AC power source separately and individually and in sequence ...” Support for this difference is found in claim 9 in the phrase, “when the windings are successively energized with single phase AC power.” In Sugita et al. the windings are simultaneously energized with single phase AC power as can be seen from the locations of the power source, the switch and the coils in figure 1. Pengov et al. discloses a two-phase switched reluctance motor and thus cannot provide the missing teaching for Sugita et al. There are other single phase AC induction motors in the prior art. Some of them have a starter winding which is energized simultaneously with the power winding when the motor is started and then disconnected from the power when the motor is running. Another known single phase AC induction motor is the shaded pole induction motor. See figure 6.28 on page 266 of Electromechanics and Electric Machines by Nasar and Unnewehr for a shaded pole motor where the windings are simultaneously energized. In regard to claim 11, this claim also includes the phrase “by sequentially energizing field windings on the stator” and is allowable for that feature in combination with the other limitations of the claim. In regard to claim 12, the prior art of record does not disclose or teach providing field windings on a stator capable of producing an AC magnetic field vector moving around the axis of a rotor thereby causing the rotor to rotate in synchronization with the AC magnetic field vector. While the textbooks cited above discuss AC magnetic fields and rotating DC magnetic fields, they do not mention rotating AC magnetic fields.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Judson H Jones whose telephone number is 703-308-0115. The examiner can normally be reached on 8-4:30 M-F. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 703-308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3431 for regular communications and 703-305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

JHJ *JHJ*
October 26, 2002

TRAN NGUYEN
TRAN NGUYEN
PRIMARY EXAMINER